

REMARKS

The Examiner's Official Action dated May 1, 1997 has been received and its contents carefully noted. By this amendment, Applicants respond to each of the rejections set forth the Office Action. Reconsideration and withdrawal of these rejections are now requested for the reasons advanced below.

Specifically, claims 5, 10, 15, 20, 25, 34-38 are cancelled, claims 1-4, 6-9, 11-14, 16-19, 21-24, 39-43 are amended to include the feature of the present invention recited in cancelled claims 5, 10, 15, 20, 25, and 34-38 and new claims 44-53 are added to recite features of the present invention no longer recited in the independent claims. Consequently, claims 1-4, 6-9, 11-14, 16-19, 21-24, and 39-53 are currently pending in the instant application.

The present invention is directed to a semiconductor circuit for an electro-optical device including an active matrix circuit and a peripheral driver circuit wherein the active matrix circuit includes a first plurality of TFT's and the peripheral circuit includes a second plurality of TFT's. At least one of the active regions of the second plurality of TFT's includes a metal element. The present invention is characterized by a monodomain region and a thin film transistor formed therein. Further, the semiconductor film including the monodomain region has a thickness of 200 to 2,000 Å.

Addressing the cited art rejections, claim 1-25, 34-43 are rejected under 35 U.S.C. §102(e) as anticipated by or, in the alternative, 35 U.S.C. §103 as obvious over Zhang (U.S. Patent 5,614,733). This rejection is traversed for the reasons advanced below.

As previously asserted by Applicant, a monodomain region has no grain boundary and can be regarded as a single crystal region (page 7 lines 29-32). The present invention is recited to include at least a channel region, further, an active region, in the monodomain region (a single crystal region). The claimed invention discloses that a channel region is formed in a monodomain region, as shown in Fig. 4B, and an active region is formed in a monodomain region, as shown in Fig. 2B.

Although Zhang teaches a laser crystallization of a channel region, Zhang does not disclose where a channel region is formed in the silicon film disclosed therein. It is unclear if Zhang's channel region is formed in a single-crystal-like region since there is no disclosure or suggestion in the Zhang reference of such a channel region placement. Therefore, Applicants contend that the amendment to the currently pending claims, which clearly defines this monodomain region, as well as the thickness of the semiconductor film of 200 to 2000 Å, distinguishes the present invention over Zhang.

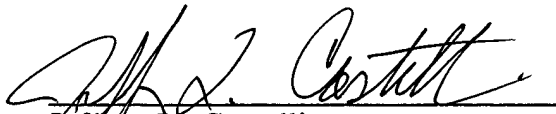
Further, with respect to claims 6 and 16, Zhang does not indicate an active region is formed in a monodomain region which has no grain boundary. Claims 6 and 16 expressly recite and, thus, define the first and second active region to have no or substantially no grain boundary. Since Zhang fails to describe this structure, Applicants contend that the rejection of these claims is further overcome in view of this structural distinction.

Claims 39-43 recite a point defect at a concentration of 1×10^{15} to $1 \times 10^{20} \text{ cm}^{-3}$. Zhang does not indicate any description of point defect and a concentration thereof. Consequently, these claims are further distinguishable over Zhang in view of the specific concentration of point defect.

New claims 44-53 are added to recite that the semiconductor film recited in independent claims 1, 6, 11, 16, 21, 39-43 comprises silicon. This feature was cancelled from each of these independent claims by this amendment. For the reasons advanced above, new claims 44-53 should be considered allowable.

In view of the foregoing, it is respectfully requested that the rejections of record be reconsidered and withdrawn by the Examiner, that claims 1-4, 6-9, 11-14, 16-19, 21-24, and 39-43 be allowed, that new claims 44-53 be allowed and that the application be passed to issue. If a conference would expedite prosecution of the instant application, the Examiner is hereby invited to telephone the undersigned to arrange such a conference.

Respectfully submitted,



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